

Serial No. 10/591,463  
Amdt. dated August 12, 2008  
Reply to Office action of May 12, 2008

- 7 -

#### REMARKS

Applicant has amended claims 1 and 5-9, added claims 10-16 and canceled claims 2-4.

The Examiner rejected Claims 1 to 4 as being unpatentable over Brown (5,092,303) and Yoshio (2002/005505). Applicant has amended claim 1 and has included the subject matter of claims 2 and 4. Claim 10 partially includes the subject matter of claims 1, 2 and 3. Claim 16 partially includes the subject matter of claims 1 and 7. As amended, applicant believes that the amended claims are not disclosed in the cited references.

The Examiner described the space rate as an obvious matter of design choice. Applicant respectfully disagrees. According to the following description in the specification, the space rate is significant:

"The fuel reformer of this application and the fuel reformer of the comparative example show an almost equal numeral value in the surface area of the catalytic material filled inside, but their space rates are remarkably different from each other. Thus, it is considered that the difference in the space rate appears as a difference in effect." Specification page 28, lines 9 to 12;

"Each of the fuel reformers used in the running test has the same space rate, and by setting this space rate to 50% or less, preferably 45% or less and by increasing the total of the surface area of the catalytic material with rise in the engine displacement, a remarkable effect was obtained." Specification

Serial No. 10/591,463  
Amdt. dated August 12, 2008  
Reply to Office action of May 12, 2008

- 8 -

page 30, lines 4 to 7 (see also Table 6);

``As a result, in the case of the space rate exceeding 50% (in the case of the space rate of 50.1% as an example), the improvement rate was as slight as 2%, but if the space rate is 50% or less (in the case of the space rate of 48.1% as an example), the rate was doubled to 4%, and a far more remarkable rise of the improvement rate was confirmed with 17% at the rate of 45% or less (44.8%).'' Specification page 31, lines 23 to 27 (see also Table 7); and

``From the results, by setting the space rate to 50% or less, preferably 45% or less, a remarkable improvement of fuel cost can be confirmed and at the same time, a remarkable improvement of fuel cost was confirmed with the surface area of the catalytic material per displacement of 1000cc at 5000 cm<sup>2</sup> or more, preferably at 10000 cm<sup>2</sup> or more.'' Specification page 32, lines 4 to 7 (see also Table 7).

Claim 16 is directed to the open piercing hole structure of the catalytic material that is not disclosed in the cited references. Support for the claim is found in specification, page 14, last paragraph.

In view of the above, it is asserted that claims 1, 5-16 are patentable over the cited references and are asserted to be in condition for allowance. Reconsideration of the rejection is respectfully requested and an early and favorable action is earnestly solicited.

Serial No. 10/591,463  
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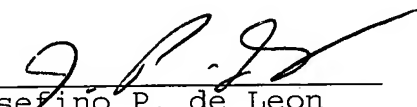
- 9 -

Please charge deposit Account No. 19-2105 for any fees required to be paid in connection with this submission and inform the undersigned.

Respectfully submitted,

Date:

8/12/2008

  
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